

# Motivations for Condom Use and Nonuse

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This exploratory study investigates the motivations for condom use and nonuse among a sample of drug users and nonusers. Participants who reported condom use in the previous 30 days rated various reasons for using a condom the last time they had had sex (79 participants). Those who reported not using a condom rated reasons for not using a condom the last time they had had sex (147 participants). Factor analyses of these responses were used to summarize reasons for condom use and nonuse. It was found that a peer norms motivation and a relationship motivation (caring) supported both condom use and nonuse. A moral norms motivation supported condom use, but a motivation that denied moral norms supported nonuse. A self interest motivation of personal pleasure supported nonuse. No strictly self-interest motivation was identified for condom use: self-protection was associated with protection of the partner.

**ABBREVIATIONS:** AIDS = acquired immunodeficiency syndrome.

**INDEX TERMS:** AIDS; condom.

Clin Lab Sci 2003;16(1):20

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According to the Centers for Disease Control and Prevention, during 1997 almost half (48%) of the reported acquired immunodeficiency syndrome (AIDS) cases with an identified source of exposure arose from sexual contact.<sup>1</sup> Research has shown that consistent, proper use of condoms can significantly reduce the risk of contracting or transmitting HIV through sexual contact.<sup>2,3</sup> As a result, public health agencies have implemented numerous campaigns designed to increase condom use among at-risk populations. However, sexual behaviors have proven remarkably resistant to change, especially among drug users.<sup>4-7</sup> Thus a central need in formulating sexual risk reduction strategies is to identify the motivations that govern condom use and nonuse.

We set out to explore why sexual partners use condoms and why they do not. We began by looking at risk reduction theories for motivations. The motivations described in this literature may be roughly categorized as self-interest, normative, or relationship-based; we shall quickly review each of these. A number of these theories assert multiple motivations.

Self-interest motivations are highlighted in theories such as the health belief model, the theory of reasoned action, social cognitive theory, diffusion of innovations theory, stages of change or the transtheoretical model of change, the AIDS-risk reduction theory, harm reduction theory, and protection motivation theory.<sup>7a-17</sup> These theories attempt to describe the person's perceptions and calculations with regard to personal health behaviors. Empirical support for self interest motivations can be found in the success of many interventions based on self-interest theories in modifying certain non-sex health behaviors such as smoking tobacco, overeating, and drinking alcohol.<sup>18-22</sup> However, interventions based on the same theories have been less successful in reducing risky sexual behaviors.<sup>5,7,23-26</sup>

Normative motivations are highlighted in theories such as the information-motivation behavior model, the AIDS-risk

reduction model, and the theory of reasoned action.<sup>10,11,15,27</sup> These theories seek to explain the influence of motivations to conform to social norms and peer attitudes on health-protective behaviors.<sup>28</sup> These theories suggest that social motivations operate in addition to a self-protection motivation to reduce HIV risk behaviors. However, direct evidence of normative motivations for sexual behaviors is inconclusive. While some studies have found that social norms can affect sexual behaviors among unmarried adult heterosexuals, among drug users, and among heterosexual college students, other studies have found only minor influence of social norms on risk behaviors among homosexual individuals, and no influence among adolescents.<sup>29-33</sup> One study has suggested that 'descriptive' norms (external to the person; a particular group's beliefs as to what constitutes appropriate behavior) may be more important than 'subjective' norms (internal to the person; what one believes one ought to do in a given situation) in affecting risky sexual behavior.<sup>34</sup>

Relationship motivations are highlighted in theories that describe personal decisions to engage in risky behavior as being heavily influenced by the characteristics and dynamics unique to each relationship a person has and within a wide range of populations including heterosexual adults, men who have sex with men, and injection drug users.<sup>35,36</sup> Such theories include power theory, social influence theory, identity theory, diffusion of information theory, and attachment theory.<sup>12,37-41</sup> Unlike other health risk behaviors such as smoking, drinking, or overeating which are motivated by positive attitudes towards that behavior, self-efficacy, and subjective norms, the decision on whether or not to use a condom requires dyadic negotiation and cooperation. Thus, examining the characteristics and dynamics of each relationship is important in order to capture the influences, emotions, and meanings that individuals may be giving to condom use.

For example, sex workers have been found to use condoms often with clients but seldom with regular partners, and clients of prostitutes have been found to use condoms less with 'steady' prostitutes.<sup>42,43</sup> Gay males who have multiple sex partners have been found to be more likely to use condoms with non-regular partners than with regular partners, and to be receptive to the partner's preference for condom use.<sup>44-46</sup> Relationship characteristics such as duration, trust, communication, and power within the relationship have been found to be associated with condom use.<sup>35,47,48</sup> Condom use is more likely with a new partner than with an established partner.<sup>49</sup> Katz found that lower relationship quality, lower emotional reasons for sex, lower coital frequency sex with a new part-

ner, non-cohabitation, and not having a child with the partner were all associated with consistent condom use.<sup>50</sup> Research also indicates that condom use is more likely with a side or secondary partner than with a main partner.<sup>51</sup> Thus, 'safer-sex', interventions that require some amount of negotiation with a sex partner appear to be effective only in some types of relationship. Interventions have been developed to teach negotiation skills to women and to gay men.<sup>28,52,53</sup> Interventions to emphasize the protection of the partner have been found successful among gay men.<sup>54,55</sup>

Each of the three types of motivation theory (self-interest, normative, or relationship-based) has been used successfully in risk reduction, so there is evidence that each captures part of the reality of condom use. However, the theorized motivations may not correspond to the motivations that condom users and nonusers recognize as their own. One way to resolve the issue of motivation would be to ask survey participants directly in an unstructured interview the reasons for their use (or nonuse) of condoms. Such a procedure would produce information about participants' conscious decision processes, and especially about highly salient processes, but would, however, tend to miss or de-emphasize motivations that are of low salience or are embarrassing. One way to access these less salient motivations is to elicit responses about a range of theoretically derived motivations.

Unfortunately, people are often remarkably unspecific about their motivations. For example, a participant could say that he used a condom, "because I wanted to wear a condom". On the surface, this response might appear to represent an example of a self-interest motivation. However, it is not clear what the participant means by this response (why, precisely, did he "want" to wear a condom?). Fortunately, the pattern of responses to a set of items can be used methodologically then to identify the dimensions along which people rate their reasons for condom use or nonuse. Factor analysis is designed to reduce a series of items to a smaller number of factors or dimensions based on similarities in response patterns.<sup>56</sup> The pattern of responses can thus help give meaning to some of the ambiguous reasons for condom use. For example, if item A tends to be chosen by the same people who tend to choose items B and C, then an inference can be made that the meaning of item A to respondents is similar to the meanings of items B and C. This example highlights what is both the strength and curse of factor analysis: all attempts to give meaning to factorial dimensions are subjective. There is a great deal of art involved in assigning meaning to factors, and reasonable observers may disagree on meanings or la-

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bels. Nevertheless, we will use exploratory factor analysis as a method for identifying condom use motivations.

It is not obvious that the motivations for choosing to use a condom will be the same as the motivations for choosing not to use a condom. For example,

a person may choose to use a condom with one partner because the partner insists, and may choose not to use a condom with another partner because a condom is inconvenient or 'unsexy.' However, even though the decision is different in each case, it is at least plausible that both motivations were con-

sidered in each case before one was given greater weight.

The goal of this paper is to describe an exploratory study of the motivations for condom use or nonuse. Therefore, we will analyze motivations for condom use and nonuse relevant to self-interest, normative, and relationship theories.

## METHOD

### Subjects

Data for this study were collected as part of a study of the sexual and drug injection behaviors of a sample of drug-using and non-drug-using persons and their risk partners. The sample was collected during 1997 and 1998 in high-drug-use sections of Houston, Texas. The study targeted a hidden population (out-of-treatment drug users and nonusers sociodemographically similar to them), so special procedures were necessary to collect a representative sample from this population. Because different methods of collecting a representative sample have different biases and different costs, three procedures were used in recruitment. The sampling strategy is described in detail in Bell and Trevino.<sup>57</sup>

The strategies for recruiting drug users involved a 'two-step random walk', and 'peer-driven recruitment'.<sup>58-60</sup> Eligibility requirements for drug users included chronic drug use (defined as use of cocaine, heroin, or methamphetamine at least three times per week). Each participant recruited by these methods was interviewed as an 'index participant'. Each index participant named his or her drug use and sexual partners in the previous 30 days. Partners with whom the index participant had injected drugs or had had sex in the previous 30 days were then recruited into the study as network mem-

Table 1. Sample characteristics

Variable	Condom Users (n = 79) n (%)	Condom Nonusers (n = 147) n (%)
Gender		
Male	44 (55.7)	82 (55.8)
Female	35 (44.3)	65 (44.2)
Race		
African-American	45 (57.0)	71 (49.0)
Anglo	16 (20.2)	35 (24.1)
Hispanic	18 (22.8)	39 (26.9)
Age		
<= 30	17 (22.1)	36 (24.5)
> 30	60 (77.9)	111 (75.5)
Participant drug use		
Nonuse or infrequent use	7 (9.9)	19 (13.4)
Frequent use	64 (90.1)	123 (86.6)
Relationship of partner*		
Spouse/girlfriend/ boyfriend	47 (69.1)	122 (87.8)
Other friend/ partner	21 (30.9)	17 (12.2)
Length of relationship†		
12 months or less	30 (39.0)	40 (27.6)
More than 12 months	47 (61.0)	105 (72.4)
Close to partner‡		
No	36 (46.8)	33 (22.8)
Yes	41 (53.2)	112 (77.2)
Respondent injected*		
Yes	48 (60.8)	57 (38.8)
No	31 (39.2)	90 (61.2)

\*  $p \leq .05$

†  $p$  condom users vs. non users (Pearson  $\chi^2$ , two-tailed)  $\leq .10$

‡  $p \leq .001$

Note: missing data are excluded

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**Table 2.** Condom use items

Item	Mean (SD)	Moral norms	Factor			
			Self and mutual protection	Caring	Peer norms	Social expectations
You believed using a condom was the right thing to do in this type of relationship.	8.5 (1.3)	.82	—	—	—	—
You wanted to wear a condom.	8.1 (2.1)	.76	—	—	—	—
You wanted to protect yourself just in case your partner had a sexual disease.	7.8 (2.5)	—	.62	—	—	.41
You thought you were supposed to wear a condom.	7.7 (2.5)	.83	—	—	—	—
You believed using condoms for sex in this type of relationship is a rule.	7.4 (2.7)	.38	—	—	—	.71
____ (your partner) wanted you to wear a condom.	7.3 (2.7)	—	.57	—	—	-.56
You thought you had an obligation to use condoms when you have sex with this partner.	7.3 (2.9)	—	—	.33	—	.74
You thought wearing a condom showed that you cared for your partner.	7.3 (2.5)	.30	—	.82	—	—
Your partner wanted to protect herself in case you had a sexual disease.	7.2 (2.7)	—	.83	—	—	—
You thought suggesting that you wear a condom showed you that your partner cared for you.	7.2 (2.6)	—	—	.82	—	—
You believed most people would use a condom in this type of relationship.	6.9 (2.7)	—	—	—	.86	—
Your partner wanted to protect you in case she had a sexual disease.	6.4 (3.1)	—	.84	—	—	—
You believed most of your friends would have used a condom in this type of relationship.	5.5 (2.8)	—	—	—	.88	—
You thought using a condom was no big deal as long as you had one with you.	5.3 (3.6)	—	—	.33	—	—
You thought your partner would get mad at you if you didn't wear a condom.	4.7 (3.5)	—	.32	.55	—	—
You thought your partner might have a sexual disease.	3.5 (3.1)	—	—	—	.43	—
Variance explained		16%	15%	13%	12%	11%

**Note:** Items are worded as presented to male participants. Items for females were worded differently, e.g., "You wanted \_\_\_\_ to wear a condom".

bers. When at least two thirds of the index participant's named risk partners were successfully recruited, an attempt was made to recruit a nonusing index participant who was demographically matched by gender, race, age (within five years), and residence (within three blocks) to the drug-using index participant. One sex partner of each nonusing index participant was recruited when available. Characteristics of the sample are shown in Table 1.

### **Sociodemographic and relationship data**

Eight measures of participants' self-reported socio-demographic characteristics and sexual relationship characteristics were collected. These were gender, race/ethnicity, and age. Each participant described his or her relationship to each named sex partner, which was coded as either intimate partner (girl/boyfriend or spouse) or casual partner. Each participant also described the length of time he or she had known each sex partner (dichotomized as a year or less, or more than a year), and whether he or she felt 'close' to that sex partner. Participants self-reported frequent drug use (defined as the use of cocaine, heroin, or methamphetamine at least three times per week during the last 30 days), and whether the participant had injected drugs during the last 30 days.

### **Identifying motivations for risk reduction**

In this exploratory study, questionnaire items were constructed to express reasons for condom use and nonuse identified in risk reduction theories. These items were designed to capture self interest, normative, and relational motivations for risk reduction. Some items were constructed to refer to specific motivations, e.g., "Because you thought your partner might have a sexual disease", while other items were constructed to refer to nonspecific motivations, e.g., "Because you wanted to wear a condom". At this early stage in the development of a measure of motivations for condom use and nonuse, items were selected to be representative of theoretical domains but not necessarily comprehensive (for example, no items referred to condom use for pregnancy protection).

Table 2 presents the 16 items written to express self interest, social norm, and relationship motivations for condom use. Table 3 presents the 16 items written to describe motivations for condom nonuse: of these, 12 items described the same motivations as a corresponding condom-use item. For example, "You thought your partner would get mad at you if you didn't wear a condom" corresponded to "You thought your partner would get mad at you if you wore a condom." The whole set of items was pretested on a small convenience sample. Items were modified based on the results of the pretest.

Items describing reasons were worded differently for male, e.g., "wearing a condom" and female, e.g., "partner wearing a condom" participants. The "male version" of each condom use item is listed in Table 2, with its mean and standard deviation. Each response was recorded using a 9-point scale ranging from 1 "strongly disagree" to 9 "strongly agree". Participants were asked about the last time they had had protected sex (with a condom) in the previous 30 days. Participants were asked to state their agreement or disagreement with 16 potential reasons for using a condom that last time.

Participants then reported if they had had sex in the previous 30 days when they had not used a condom. They were asked to remember the last time they had not used a condom and to agree or disagree with 16 potential reasons for not using a condom. Condom nonuse motivations, means, and standard deviations are reported in Table 3.

Because there may be differences in the way men and women negotiate with the opposite sex, as compared to the way men and women negotiate with members of the same sex, and because participants described only a limited number of homosexual relationships, we have confined our analyses to heterosexual sexual relationships. A factor analysis was carried out on each set of 16 items to identify those patterns that indicated similarities in motivation of the participants. Varimax rotation was used to achieve orthogonal factors. We imposed a single factor structure by including both men and women in the factor analysis. Afterwards we looked for differences in factor scores for men and women.

To further interpret the factors discovered, multiple regression analyses were performed for each factor to examine how the motivation factors varied by gender, age, race/ethnicity, type of relationship, length of relationship, drug use, and partner closeness.

## **RESULTS**

Out of the 267 participants interviewed for this study, 79 participants reported having at least one condom use episode in the previous month and 147 reported at least one episode of sex without a condom in the previous month. Thirty-six participants reported having both protected and unprotected sex; almost one-third of these reported both using and not using a condom with the same 30-day sex partner.

The majority of respondents in each group were male, African-American, and over the age of 30. Most condom users and nonusers were also frequent drug users. The partner de-

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**Table 3.** Condom nonuse items

Item	Mean (SD)	Partner influence	Moral norms	Peer norms	Caring	Personal pleasure
You thought your partner was clean and healthy.	7.8 (2.4)	—	—	.40	—	—
You did not want to wear a condom	6.7 (3.0)	—	.72	—	—	.30
_____ (your partner) did not want you to wear a condom.	6.3 (3.0)	.34	.42	—	—	—
You believed most people would not use a condom in a relationship like the one between you and your partner.	5.9 (2.9)	—	—	.85	—	—
You believed most of your friends would not use a condom in a relationship like the one between you and your partner.	5.9 (2.8)	—	—	.86	—	—
You thought condoms made sex feel less natural to you.	5.8 (3.4)	—	—	—	—	.90
You had no obligation to wear a condom.	5.4 (3.4)	—	.69	—	—	—
You thought condoms would have ruined the mood for you at that time.	5.1 (3.4)	—	—	—	—	.78
Your partner's willingness to have sex with you without a condom showed you that he/she cared for you.	5.1 (3.3)	—	—	—	.91	—
You thought there is no rule that says you should use condoms for sex in a relationship like the one between you and your partner.	4.9 (3.4)	.32	.61	—	—	—
You thought being willing to have sex without a condom showed your partner that you cared for her.	4.7 (3.3)	.31	—	—	.78	—
You knew using a condom the right way is not as easy as it sounds.	4.5 (3.2)	.49	—	—	.35	—
You thought you were not supposed to wear a condom when you and your partner were having sex.	4.4 (3.5)	—	.66	—	—	—
You thought wearing a condom would have shown your partner that you did not trust her.	3.9 (3.3)	.84	—	—	—	—
You thought your partner would get mad at you if you wore a condom.	3.2 (3.1)	.87	—	—	—	—
You did not believe condoms were very effective.	3.1 (2.9)	.35	—	—	—	—
Variance explained		14%	14%	12%	11%	11%

**Note:** Items are worded as presented to male participants. Items for females were worded differently, e.g., "You did not want \_\_\_\_\_ to wear a condom".



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scribed by the majority of respondents was a spouse or boy/girl friend. Most respondents had known their partner for more than a year and felt close to their partner. A majority of condom users had injected drugs in the preceding 30 days whereas a majority of nonusers had not. There were no significant differences between condom users and nonusers by gender, race, age, or drug use. A greater proportion of nonusers reported their partner was a spouse or a boy/girl friend ( $p$ , Pearson  $\chi^2$ , two-tailed,  $\leq .05$ ). Nonusers were more likely to report they had known their partner for more than a year ( $p \leq .10$ ), and that they were close to their partner ( $p \leq .01$ ). Respondents who used condoms were more likely to report having injected in the previous 30 days ( $p \leq .05$ ).

Five factors were extracted from the condom use items (Table 2).

### 1. "Moral Norms"

This motivation for condom use was associated with social expectations that one was "supposed to" wear a condom with this partner, the belief that using a condom was the "right thing" to do in this type of relationship, and the belief that condom use in this type of relationship was a "rule". In addition this motivation was associated with wanting to wear a condom and with caring for the partner.

### 2. "Self and Mutual Protection"

This motivation was associated with protecting oneself and one's partner from disease, with one's partner wanting a condom to be used, and with keeping one's partner from getting mad.

### 3. "Caring"

This motivation was associated with condom use as a symbol of caring. It was also associated with a desire to keep one's partner from getting mad if a condom was not used, a belief that one had an obligation to use a condom, and with the attitude that using a condom was no big deal as long as one was available.

### 4. "Peer Norms"

This motivation was associated with external social norms, an expectation that condom use in this type of relationship was prevalent among one's peers and prevalent generally. The intermediate loading on thoughts that the partner might have an STD suggested that one expected one's peers and others to use condoms because of the current prevalence of STDs in one's social group.

**Table 4.** Standardized regression coefficients: condom users

	Moral norms	Self and mutual protection	Caring	Peer norms	Social expectations
Gender					
Female	.34*	-.23 <sup>†</sup>	-.15	.13	.21
Race					
Black	.03	.24	-.28	-.08	-.41 <sup>†</sup>
Hispanic	-.29 <sup>†</sup>	.07	-.23	.09	-.31 <sup>†</sup>
Age (years)	.09	-.01	.16	.09	.23
Relationship of partner					
Girlfriend/boyfriend/spouse	.04	.06	.09	-.01	.03
Length of relationship (months)	.22 <sup>†</sup>	-.07	.08	.01	-.07
Participant drug use					
User	.10	.20	.08	-.08	.19
Close to partner					
Yes	.17	-.23	.004	-.25	-.07
R	.30	.26	.13	.08	.14

\*  $p \leq .01$

<sup>†</sup>  $p \leq .10$

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### 5. "Social Expectations"

This motivation was associated with moral principles (obligations and rules). These moral principles seemed to be based on an imperative of self protection (it was associated with a belief that one's partner might have a sexually transmitted disease). This motivation was inversely related with one's partner wanting a condom to be used.

Five factors were extracted from the condom nonuse items (Table 3). The factors were identified and labeled as follows:

#### 1. "Partner Influence"

This motivation for not using a condom was associated with the expectation that the partner would get mad about using a condom and with the perception that using a condom would show a lack of trust in the partner. In addition, this motivation was associated with difficulty and ineffectiveness of condoms, with the partner's wish that a condom not be used, with condom use not being a rule in this type of relationship, and with showing the partner that you care.

### 2. "Moral Norms"

Reasons for not using a condom that had strong loadings on this factor included: because you did not want a condom to be used; because you had no obligation to use condoms with this partner; because you are not supposed to use a condom with this partner; and because using condoms in this type of relationship is not a rule. Another reason was because your partner did not want a condom to be used.

### 3. "Peer Norms"

Three reasons loaded strongly on this factor: because you believed that most people and most of your friends wouldn't use a condom in a relationship like yours, and believing that your partner was clean and healthy.

### 4. "Caring"

This motivation for condom nonuse was associated with the perception that the partner's willingness not to use condoms with you was proof that the partner loved you, that your willingness to use a condom showed the partner you cared for them, and that using a condom is not as easy as it sounds.

**Table 5.** Standardized regression coefficients: condom nonusers

	Partner Influence	Moral Norms	Peer Norms	Caring	Personal Pleasure
Gender					
Female	.05	-.13	.08	.04	-.16*
Race					
Black	.15	-.03	-.14	.13	.10
Hispanic	-.06	-.22 <sup>†</sup>	-.04	.16	.18
Age (years)	.03	.13	.07	.15*	.03
Relationship of partner					
Girlfriend/boyfriend/spouse	-.01	.19*	.13	.02	-.11
Length of relationship (months)	.06	-.07	.04	.04	-.12
Participant drug use					
User	.11	.05	-.01	-.17	-.05
Close to partner					
Yes	-.01	.16	.04	.12	.11
Participant injects					
Yes	-.09	-.02	.04	-.29 <sup>‡</sup>	-.02
R <sup>2</sup>	.07	.12	.05	.14	.07

\*  $p \leq .10$

<sup>†</sup>  $p \leq .05$

<sup>‡</sup>  $p \leq .01$



### 5. "Personal Pleasure"

Three reasons for not using a condom loaded strongly on this factor: condoms make sex feel less natural to you; you thought condoms would have ruined the mood, and you did not want to wear a condom.

The mean agreement score across the 16 reasons for using a condom was 6.8, significantly greater than the 5.2 mean agreement score across the 16 reasons for not using a condom ( $t = 3.47, p < .05$ ).

In multiple regression analyses, being female was associated with a significantly increased moral norms motivation for condom use while being female was associated with a significantly lower self and mutual protection motivation for condom use and a significantly lower personal pleasure motivation for condom nonuse. Being Black was associated with a significantly reduced social expectation motivation for condom use. Being Hispanic was also associated with a significantly lower social expectation motivation and moral norms motivation for condom use and a higher moral norms motivation for condom nonuse. Age was associated with a significantly higher caring motivation for not using condoms. Length of the relationship was significantly associated with a higher moral norms motivation for condom use. The moral norm motivation for condom nonuse was more likely to be invoked for boyfriends, girlfriends, and spouses than for casual partners. Drug injection in the previous 30 days was significantly associated with a reduced "caring" motivation.

## DISCUSSION

In this exploratory study of condom use and nonuse motivations, our results suggest that, in general, the motivations persons endorsed for using a condom were similar to the motivations for not using a condom. However, one difference was apparent: participants were more in agreement with reasons for using a condom (mean = 6.8) than they were with reasons for not using a condom (mean = 5.2). We interpret the discrepancy in agreement scores as indicating that participants likely had given less thought to condom non-use decisions than to condom use decisions.

We found that condom users strongly agreed with two of the condom motivation items, "wanted to use a condom" (mean 8.1) and "believed using a condom was the right thing to do in this type of relationship" (mean 8.5). We also found that a significant number of participants agreed with nine other condom motivation items (mean around 7.3). Participants disagreed with only one of the condom motivation

items, "You thought your partner may have a sexual disease", and only two of the items were in the "don't know" range. Condom nonusers, on the other hand, only strongly agreed with the notion that the motivation for not using a condom was because their "partner was clean and healthy" and were in strong disagreement with the idea that they did not use a condom because condoms were ineffective.

### Self interest motivations

Self-interest condom motivations were identified in both condom use and nonuse. The *self and mutual protection motivation* involved protecting both oneself and one's partner from sexual diseases. Men more strongly endorsed this motivation for condom use than women did. Self interest was also seen in the *personal pleasure motivation* for not using condoms. In particular, condoms were seen as making sex feel less natural and "ruining the mood". The inconvenience of condom use served as a self-interested reason to avoid condom use. The personal pleasure motivation was more strongly endorsed by men.

Since the self-interest related motivation of mutual protection is inextricably associated with protection of the partner, we interpret this motivation as a relationship-based self-interest. Our results thus suggest that the role of self interest in condom use is deeply immersed in the relationship. Participants seem to include their partner's self interest along with their own in deciding to use a condom. Individual self-interest-based appeals may not tap into an active condom use motivation. We acknowledge that our method, which depends on variation in motivation across participants, may not detect a 'constant' motivation like self-interest. Nevertheless, these results suggest that self-interest-based interventions may be well advised to emphasize the dyadic and mutual nature of condom use: protection may best be described as a joint issue, not a personal issue. Among males, interventions that seek to involve the self and mutual protection motivation by emphasizing individual self interest run the concurrent risk of activating an individual pleasure motivation and thus, as an unintended consequence of such an intervention, may promote an increase in unprotected sex.

These results suggest some of the reasons that self-interest-based motivations may have been more successful in reducing risks associated with tobacco smoking and drug injection. These are activities which, although they may often occur in social contexts, are essentially self-oriented behaviors. Rewards and costs accrue primarily to oneself. Thus calculations of interest maximization can easily focus on the

self. It seems to be a simple extension to apply this logic to sexual relations. However, our results suggest that sexual relations may be fundamentally different from these other risk contexts. Our participants apparently did not focus strongly on the risks to themselves. The emotional nature of most sexual relationships seems to have changed the focus from the self to the dyad. Self-interest did appear to be a motivation for the decision not to use condoms. It is of course possible that these results occurred because of peculiarities of our choices of items, and additional research is needed before definitive conclusions may be advanced.

### Normative motivations

Support was found for a significant role of normative motivations in both condom use and nonuse. Three normative motivations were identified, based on peer norms, moral norms, and social expectations. The *peer norms motivation* appeared to reflect the 'descriptive' norms of a specific or general social reference group. This normative motivation took the form of a responsiveness to the beliefs of the specific "most of your friends" and the general "most people". Peer norms for condom use were related to self protection (your partner might have a sexual disease), while peer norms for condom nonuse were related to a perception that there was no need for self-protection because the partner was "clean and healthy." Participants who used condoms were motivated to do so by their perception that others would use condoms. At the same time, participants who did not use condoms were motivated by their perception that others would *not* use condoms. The health status of the partner was seen to affect condom use only within the peer norms motivation. This association suggests that peer norms are not absolute, either for or against condoms, but are instead relative norms: use condoms with potentially infected partners but do not use condoms with 'clean' partners.

The *moral norms motivation* appeared to reflect 'subjective' norms.<sup>34</sup> This motivation appeared to be based on moral principles expressed as rules and obligations. This normative motivation took the form of an internal sense of expectations (one is 'supposed to' take some action; there is a 'rule' to take the action; the action is 'right'). The internal nature of this motivation was seen in its association with the ambiguous personal preference, 'wanting to take the action'.<sup>61</sup> This association of 'wanting' with social norms suggests that 'wanting' to use condoms was being interpreted by participants in terms of 'wanting to do what is right' instead of 'wanting to maximize personal interest'. Moral norms were cited as a justification for both condom use and nonuse. Condom users claimed that moral norms required condom use, while nonusers

claimed that the absence of such moral norms justified non-use. Moral norms of condom use were endorsed most often by women and by those in long term relationships, suggesting that participants perceived these moral norms as applying mostly to long term relationships. Moral norms of both condom use and nonuse were least endorsed by Hispanics. That is, Hispanics were least likely to say that one should use a condom, but they were also least likely to say that one is *not* supposed to use a condom.

The *social expectation motivation* appeared to reflect the external imposition of social expectations on participants' condom use decisions. This external aspect of social norms was seen in the high loadings for condom use as a 'rule' and as an obligation. This motivation had a small loading on protecting oneself 'just in case' of disease, suggesting that the source of the external norm was to protect societal members. The negative loading on partner's wanting one to use a condom implicates social expectations rather than partner expectations. Note that the moral norms motivation for condom nonuse consisted of items representing both the moral norms motivation for condom use and the social expectations motivation for condom use. This result suggests that moral norms and social expectations come together for condom nonuse, but comprise separate motivations for condom use.

In general, the concept of social norms appeared to have a much more heterogeneous meaning in the context of condom use than a casual reading of the literature on norms might suggest. Social norms about condoms may be 'subjective' and 'moral' and take the form of a subjective sense of rightness and obligation to use condoms. Social norms about condom use may also be 'subjective' as an internalization of others' expectations about one's behavior. We surmise that both the obligation of moral norms and the expectations of socially expressed norms are based on others' expectations. On the other hand, some participants also claimed that there were no moral norms or expectations for using a condom, i.e., no principles or expectations that were binding on them. Although the motivations to follow principle-based moral norms or to follow social expectations support the use of condoms, such norms and expectations are clearly not universally internalized. Some of those who did not use condoms reported that such norms and expectations do not exist or do not apply to them. Although persons in the population of drug users we studied have shown substantial awareness of risk reduction appeals, participants clearly are able to deny that such appeals apply to them.<sup>62</sup> The moral motivation for condom use is tied in with one's sense of personal interest:

one 'wants' to do what is right. However, not everyone experiences such social expectations. This result suggests that there may be no condom use social norms that are both universally known and accepted. Neither moral norms nor social expectations appear to be 'social norms' in the sociological meaning as social expectations that are overtly or covertly sanctioned by society.<sup>63-65</sup> Participants in this study apparently have the ability to avoid the social sanctions that would enforce such moral norms and expectations.

Social norms about condoms may also be 'descriptive'. The peer norms motivation supports the use of condoms because of condom use attitudes and behaviors among one's peers. However, persons who do not use condoms also perceive the approval of their peers for their decision not to use condoms. Thus, the results here have shown that peer-based appeals need not just to appeal to one's desire for acceptance from peers (such appeals only work for those who already perceive such peers); for those whose peers are condom nonusers, peer-based appeals must either lead persons to re-evaluate their peers, opposition to condom use (in case they are misperceiving their peers attitude) or must reorient persons to a different set of peers—those persons who support condom use. Interventions such as peer counseling may be beneficial in initiating condom use among those currently having unprotected sex by making explicit the support for condom use among a person's peers. Most of the theories that have been previously applied to HIV-risk behaviors have been based on peer norms. The theory of reasoned action, the information-motivation behavior model, and the AIDS-risk reduction model have relied on the concept of peer-based normative motivation.<sup>10,11,15,27</sup> Each assumes that a person will seek to reduce HIV-risk behaviors because of a concern with what significant others think or expect.

### Relationship motivations

We also found evidence of relationship-based motivations. In addition to the self and mutual protection motivation identified earlier, participants were motivated in their condom use and nonuse decisions by the *caring motivation* between self and partner. This was a markedly ambiguous motivation. Condom users were likely to cite condom use as showing the partner that one cares. On the other hand, condom nonusers also cited mutual caring as a motivation for nonuse. Thus condom use seems to have a symbolic emotional meaning in the relationship for both users and nonusers. Caring supported condom use because condom use signified protecting the partner. However, caring also supported condom nonuse because condom nonuse was taken

to signify trust in the partner. The emotional motivation of caring can be activated in the service of condom use by appeals that emphasize the symbolic meaning of condom use as a caring choice for the protection of the partner. This approach has been represented in identity theory and attachment theory.<sup>40,41</sup> There are some pitfalls here, however, because condom use can be a symbol of caring for the partner, but it can also signify a lack of trust. This means that appeals to caring for the partner as a means to motivate condom use run the risk of weakening the very relationships that were counted on to support the use: attempting to invoke caring directly as a means to promote condom use may have the paradoxical result of threatening the relationship by implying mistrust.

Another relationship-based motivation was the *partner influence motivation*. This motivation represented a desire to gain or maintain the partner's trust, acquiescence to the partner's preference, and also a desire not to anger the partner. Applying only to condom nonuse, partner influence motivation represented a desire to encourage trust and not to anger the partner. A number of theories have emphasized influence and power disparities between partners as determinants of behavior, including power theory, social influence theory, and diffusion of information theory.<sup>12,37-39</sup> In these theories, relationships are important in that persons are motivated by the partner's preferences and influence. The partner influence motivation shows how partners can undermine condom use strategies, especially because not using a condom represents relationship trust. At the same time, the self and mutual protection motivation shows how partners can influence condom use for mutual protection. This suggests that a relationship-based intervention targeting either partner may be successful in increasing condom use for the dyad so long as the intervention is careful to maintain relationship trust. The role of partner influence suggests that couples be presented with positive messages regarding condom use as a mutual protection behavior that does not compromise relationship trust, and counseling on how to encourage one another to use condoms. Prevention research has advocated that women especially need to be trained in persuasive techniques.<sup>52,53</sup>

### Limitations

This exploratory study has some limitations. First, the sample for this study consisted of drug users and sociodemographically matched drug nonusers. Such a sample raises issues of generalizability of findings. Moreover, because drug users are a hidden population, random sampling is not possible.

In this study, two different sampling strategies were implemented to achieve a representative sample of drug users. Two-step random walks generated a sample that was distanced from the street sample usually recruited in studies of community drug users; this strategy was very expensive in terms of time and recruitment effort. A second strategy, peer-driven recruitment was much less expensive in terms of recruitment, but at the expense of lower levels of commitment from those sampled. The network recruitment strategy raises issues of interdependence among responses. That is, it is possible that participants recruited from one network will systematically respond more similarly to one another than to members of another network. However, since the number of condom users (79) and nonusers (147) was each less than the number of networks sampled (169), this was considered a minor problem and we did not attempt to take these possible interdependencies into account in these analyses.

Second, the task required of participants was a complex cognitive task. Some participants apparently were relatively clear in their minds about their motivations for condom use or nonuse because they had discussed it with their partners. This pattern was apparently a minority pattern. Most participants did not appear to have discussed the use of condoms together recently, although they may have discussed it at some time in the past. The lower mean agreement scores for the condom nonuse items support the idea that participants had given less thought to reasons for choosing not to use a condom than to reasons for using a condom.

And third, dimensional analysis, such as principal components analysis, draws conclusions from the variation in items. All dimensions identified here are based on items on which participants systematically differed. Items on which participants agreed would not appear in the factors. Because motivational factors were determined by factor analysis, a constant or uniform motivation, as many economists assume self interest is, might not be detected by this technique. Furthermore, the data here are from a theoretically derived, yet limited, set of possible condom use motivations. Although a wide range of condom use reasons were rated by participants, the sample of reasons did not attempt to cover the entire domain of condom use and nonuse reasons. For example, in one major oversight, we asked only about condom use motivations for disease prevention and did not ask about pregnancy protection as a motivation for condom use.

## SUMMARY AND CONCLUSION

We have shown that a number of motivations can be identified that affect condom use and nonuse. Furthermore, many of these motivations were used by participants to justify both condom use and nonuse. From a health education perspective, it is the condom nonusers who need to be the focus of interventions. However, the motivations of condom nonusers are not widely different from the motivations of condom users. In other words, the motivations that lead to condom use or nonuse are not so different; rather, the particular individual and social context of each encounter, e.g., the attitudes of peers or the amount of emotional attachment in the relationship, appear to affect the condom use decision. Therefore, in the context of condom use, one size does not fit all: interventions need to be carefully crafted to activate the appropriate condom use motivations while deactivating the corresponding condom nonuse motivations.

**ACKNOWLEDGEMENTS:** This work was supported by grant R01-DA08989 from the National Institute on Drug Abuse. Thanks are due to Charissa D Higginbotham for the preparation of the manuscript.

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